

A DIAPHRAGM-BASED RESERVOIR FOR A CLOSED BLOOD SAMPLING SYSTEM

Abstract of the Disclosure

A reservoir (10, 26, 80, 126, 226, 380) includes a rigid wall (12, 28, 82, 128, 228, 382), a flexible membrane (14, 34, 134, 234, 334) sealingly secured to the rigid wall (12, 28, 82, 128, 228, 382) to define a variable volume chamber (18, 38, 138, 238, 338), and inlet (40, 140, 240, 340) and exit (42, 142, 242, 342) ports in fluid communication with the chamber (18, 38, 138, 238, 338). A drive surface (24, 50, 150, 250, 350) engages the membrane (14, 34, 134, 234, 334) to position it adjacent the rigid wall (12, 28, 82, 128, 228, 382) to define a minimum volume position. The drive surface (24, 50, 150, 250, 350) may be moved so that the membrane (14, 34, 134, 234, 334) flexes out of the minimum volume position to an expanded volume position. The membrane (14, 34, 134, 234, 334) may be coupled to the drive surface (24, 50, 150, 250, 350) or be uncoupled from the drive surface (24, 50, 150, 250, 350). The reservoir (10, 26, 80, 126, 226, 326) may be included in a closed blood sampling system (88) for drawing a sample of whole blood.